Cruise control*

Use the cruise control to help to maintain a set speed without using the accelerator.

n Set the vehicle speed

Turn the "ON-OFF" button on.

Push the button once more to deactivate the cruise control.

Accelerate or decelerate to the desired speed and press the lever down to set the cruise control speed.

*: If equipped

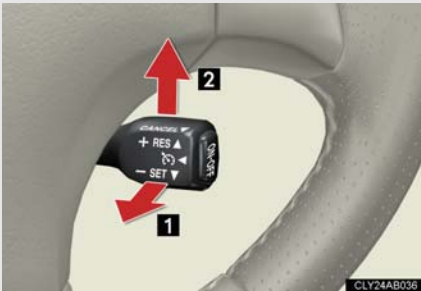
Adjusting the speed setting

1 Increase speed

2 Decrease speed

Hold the lever until the desired speed setting is obtained.

Fine adjustment of the set speed (approximately 1.0 mph [1.6 km/h]) can be made by lightly pressing the lever up or down and releasing it.

Canceling and resuming regular acceleration

1 Cancel

Push the lever towards you to cancel cruise control.

The speed setting is also canceled when the brakes are applied.

2 Resume

To resume cruise control and return to the set speed, push the lever up.

Cruise control can be set when

- The shift lever is in the D position. However, it cannot be set if any of the ranges 1 through 3 has been selected using the paddle shift switches.
- Vehicle speed is more than approximately 24 mph (40 km/h).

- **Accelerating**

  The vehicle can be accelerated normally. After acceleration, the set speed resumes.

- **Automatic cruise control cancellation**

  The set speed is automatically cancelled in any of the following situations.

  - Actual vehicle speed falls more than 10 mph (16 km/h) below the preset vehicle speed
    At this time, the memorized set speed is not retained.
  - Actual vehicle speed is below 24 mph (40km/h)
  - VSC is activated
  - The shift lever is shifted to the M position.
  - When the shift lever is in the D position and any of the ranges 1 through 3 is selected using the "-" paddle shift switch.

- **If the cruise control indicator light flashes**

  Turn the "ON-OFF" button off once, and then reactivate the system.
  If the cruise control speed cannot be set or if the cruise control cancels immediately after being activated, there may be a malfunction in the cruise control system. Have the vehicle inspected by your Lexus dealer.

CAUTION

- **To avoid operating the cruise control by mistake**

  Keep the "ON-OFF" button off when not in use.

- **Situations unsuitable for cruise control**

  Do not use cruise control in any of the following situations.
  Doing so may result in control of the vehicle being lost and could cause an accident resulting in death or serious injury.

  - In heavy traffic
  - On roads with sharp bends
  - On winding roads
  - On slippery roads, such as those covered with rain, ice or snow
  - On steep hills

Dynamic radar cruise control*

Dynamic radar cruise control supplements conventional cruise control with a vehicle-to-vehicle distance control. In the vehicle-to-vehicle distance control mode, the vehicle automatically accelerates or decelerates in order to help to maintain a set following distance from vehicles ahead.

n Selecting cruise mode

Selecting vehicle-to-vehicle distance control mode

Turn the “ON-OFF” button on.

Push the button once more to deactivate.

*: If equipped

Selecting conventional constant speed control mode

1 Turn the “ON-OFF” button on.

Push the button once more to deactivate.

Vehicle-to-vehicle distance control mode is always reset when the “ENGINE START STOP” switch is switched to IGNITION ON mode.

2 Switch to constant speed control mode.
(Push the lever forward and hold for approximately one second.)

Driving in the selected cruise control mode

Accelerate or decelerate to the desired speed and press the lever down to set.

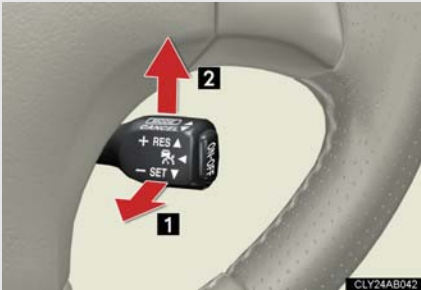
n Adjusting the speed setting

1 Increase speed

2 Decrease speed

Hold the lever until the desired speed setting is displayed.

Fine adjustment of the set speed can be made by lightly pressing the lever up or down and releasing it. Adjustment can be made in increments of approximately 1.0 mph (1.6 km/h) when in the constant speed control mode, and approximately 5.0 mph/5.0 km/h when in vehicle-to-vehicle distance control mode.

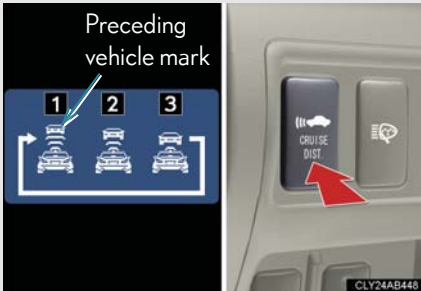
n Canceling and resuming the speed setting

1 Cancel

Push the lever towards you to cancel cruise control.

The setting is also canceled when the brakes are applied.

2 Resume

To resume cruise control and return to the set speed, push the lever up.

Changing the vehicle-to-vehicle distance

Pressing the button changes the vehicle-to-vehicle distance as follows:

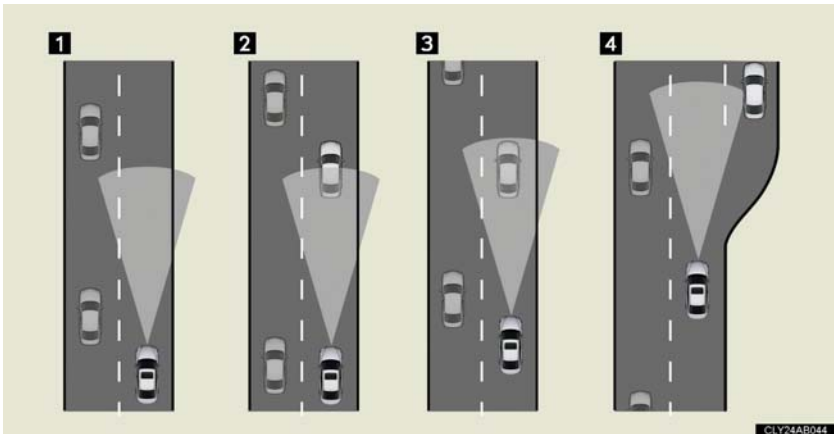
1 Long
2 Medium
3 Short

The vehicle-to-vehicle distance is automatically set to the long mode when the “ENGINE START STOP” switch is switched to IGNITION ON mode.

A mark will be displayed to indicate the presence of the vehicle if a vehicle is running ahead of you.

Driving in vehicle-to-vehicle distance control mode

This mode employs a radar sensor to detect the presence of vehicles up to 400 ft. (120 m) ahead of you and to judge the distance between your vehicle and those vehicles.

Note that vehicle-to-vehicle distance will close when traveling on long downhill slopes.

1 Example of constant speed cruising

When there are no vehicles ahead

The vehicle travels at the speed set by the driver. The desired vehicle-to-vehicle distance can also be set by operating the vehicle-to-vehicle distance switch.

2 Example of deceleration cruising

When the vehicle ahead is driving slower than the set speed

When a vehicle is detected running ahead of you, in the same lane, the system automatically decelerates your vehicle. When a greater reduction in vehicle speed is necessary, the system applies the brakes. A warning tone warns you when the system cannot decelerate sufficiently to prevent your vehicle from closing on the vehicle ahead.

3 Example of follow-up cruising
When following a vehicle driving slower than the set speed

The system continues follow-up cruising while adjusting for changes in the speed of the vehicle ahead in order to maintain the vehicle-to-vehicle distance set by the driver.

4 Example of acceleration
When there are no longer vehicles driving slower than the set speed in the lane ahead

When the vehicle ahead of you executes a lane change, the system slowly accelerates until the set vehicle speed is reached. The system then returns to fixed speed cruising.

Approach warning

When your vehicle is too close to a vehicle ahead, and sufficient automatic deceleration via the cruise control is not possible, the display will flash and buzzer will sound to alert the driver. An example of this would be if another driver cuts in front of you while you are following a vehicle. Apply the brakes to ensure an appropriate vehicle-to-vehicle distance.

Warning lights, messages and buzzers for dynamic radar cruise control

Warning lights, messages and buzzers are used to indicate a system malfunction or to inform the driver of the need for caution while driving. (→P. 463)

Switching modes

The mode cannot be switched to constant speed control mode if vehicle-to-vehicle distance control mode has been used. The mode also cannot be switched from constant speed control to vehicle-to-vehicle distance control mode. Turn the system off by pressing the “ON-OFF” button, and turn it on again.

The dynamic radar cruise can be set when

- The shift lever is in the D position. However, it cannot be set if any of the ranges 1 through 3 has been selected using the paddle shift switches.
- Vehicle speed is more than approximately 30 mph (50 km/h).

- **Accelerating**

The vehicle can be accelerated normally. After acceleration, the set speed resumes. However, during vehicle-to-vehicle distance control mode, the vehicle speed may decrease below the set speed in order to maintain the distance to the vehicle ahead.

- **Automatically canceling vehicle-to-vehicle distance control**

Vehicle-to-vehicle distance control driving is automatically canceled in the following situations.

- Vehicle speed falls below 24 mph (40 km/h)
- VSC is activated.
- The sensor cannot operate correctly because it is covered in some way.
- The windshield wipers are operating at high speed.
- Snow mode is selected.
- The shift lever is shifted to the M position.
- When the shift lever is in the D position and any of the ranges 1 through 3 is selected using the "-" paddle shift switch.

If vehicle-to-vehicle distance control driving is automatically canceled for any other reason, there may be a malfunction in the system. Contact your Lexus dealer.

- **Automatically cancelling constant speed control**

The set speed is automatically canceled in the following situations.

- Actual vehicle speed is more than 10 mph (16 km/h) below the preset vehicle speed
  At this time, the memorized set speed is not retained.
- Vehicle speed falls below 24 mph (40 km/h)
- VSC is activated.
- The shift lever is shifted to the M position.
- When the shift lever is in the D position and any of the ranges 1 through 3 is selected using the "-" paddle shift switch.

■ **Vehicle-to-vehicle distance settings**

Select a distance from the table below. Note that the distances shown correspond to a vehicle speed of 50 mph (80 km/h). Vehicle-to-vehicle distance increases/decreases in accordance with vehicle speed.

Distance options	Vehicle-to-vehicle distance
Long	Approximately 210 ft. (65 m)
Medium	Approximately 150 ft. (45 m)
Short	Approximately 100 ft. (30 m)

■ **Radar sensor and grille cover**

Always keep the sensor and grille cover clean to ensure that the vehicle-to-vehicle distance control operates properly. (Some obstructions, such as snow, ice or plastic objects, cannot be detected by the obstruction sensor.)
Dynamic radar cruise control is canceled if an obstruction is detected.

1 Grille cover

2 Radar sensor

■ **Approach warning**

In the following instances, there is a possibility that the warnings will not occur:

- When the speed of the vehicle ahead matches or exceeds your vehicle's speed
- When the vehicle ahead is traveling at an extremely slow speed
- Immediately after the cruise control speed has been set
- At the instant the accelerator is applied

■ **Certification**

▶ For vehicles sold in U.S.A.

FCC ID: HYQDNMWR005

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC WARNING

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Radio frequency radiation exposure Information:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

This equipment should be installed and operated with minimum distance of 20 cm between the radiator and your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

▶ For vehicles sold in Canada

Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

CAUTION

Before using dynamic radar cruise control

Do not overly rely on vehicle-to-vehicle distance control.
Be aware of the set vehicle speed. If automatic deceleration/acceleration is not appropriate, adjust the vehicle speed, as well as the distance between your vehicle and vehicles ahead by applying the brakes, etc.

Cautions regarding the driving assist systems

Observe the following precautions.
Failure to do so may cause an accident resulting in death or serious injury.

- Assisting the driver to measure following distance
  The dynamic radar cruise control is only intended to help the driver in determining the following distance between the driver's own vehicle and a designated vehicle traveling ahead. It is not a mechanism that allows careless or inattentive driving, and it is not a system that can assist the driver in low-visibility conditions. It is still necessary for driver to pay close attention to the vehicle's surroundings.
- Assisting the driver to judge proper following distance
  The dynamic radar cruise control determines whether the following distance between the driver's own vehicle and a designated vehicle traveling ahead is appropriate or not. It is not capable of making any other type of judgement. Therefore, it is absolutely necessary for the driver to remain vigilant and to determine whether or not there is a possibility of danger in any given situation.
- Assisting the driver to operate the vehicle
  The dynamic radar cruise control has no capability to prevent or avoid a collision with a vehicle traveling ahead. Therefore, if there is ever any danger, the driver must take immediate and direct control of the vehicle and act appropriately in order to ensure the safety of all involved.

To avoid inadvertent dynamic radar cruise control activation

Keep the “ON-OFF” button off when not in use.

CAUTION

Situations unsuitable for dynamic radar cruise control

Do not use dynamic radar cruise control in any of the following situations.
Doing so may result in inappropriate control of speed and could cause an accident resulting in death or serious injury.

- In heavy traffic
- On roads with sharp bends
- On winding roads
- On slippery roads, such as those covered with rain, ice or snow
- Where there are sudden changes between sharp up and down gradients
- At entrances to expressways
- When weather conditions are bad enough that they may prevent the sensors from functioning correctly (heavy rain, fog, snow, sandstorm, etc.)
- When the approach warning buzzer can be heard often

When the radar sensor may not be correctly detecting the vehicle ahead

Apply the brakes as necessary when any of the following types of vehicles are in front of you.
As the sensor may not be able to correctly detect these types of vehicles, the proximity alarm (→P. 463) will not be activated, and an accident may result.

- Vehicles that cut in suddenly
- Vehicles traveling at low speeds
- Vehicles that are not moving
- Vehicles with small rear ends (trailers with no load on board etc.)
- Motorcycles traveling in the same lane

CAUTION

Conditions under which the vehicle-to-vehicle distance control may not function correctly

Apply the brakes as necessary in the following conditions as the radar sensor may not be able to correctly detect vehicles ahead, and an accident may result.

- When water or snow thrown up by the surrounding vehicles hinders the functioning of the sensor
- When your vehicle is pointing upwards (caused by a heavy load in the trunk, etc.)
- When the road curves or when the lanes are narrow
- When steering wheel operation or your position in the lane is unstable
- When the vehicle ahead of you decelerates suddenly

To ensure the radar sensor functions correctly

Do not do the following to the sensor or grille cover as doing so may cause the sensor not to function correctly and could result in an accident.

- Stick or attach anything to them
- Leave them dirty
- Disassemble, or subject them to strong shocks
- Modify or paint them
- Replace them with non-genuine parts

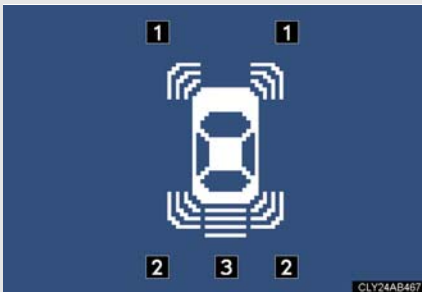
Intuitive parking assist*

The distance to obstacles measured by the sensors is communicated via the multi-information display and a buzzer when parallel parking or maneuvering into a garage. Always check the surrounding area when using this system.

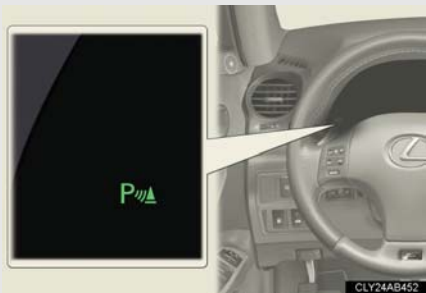
For vehicles equipped with a navigation system, refer to the separate "Navigation System Owner's Manual" for further details.

Types of sensors

1 Front corner sensors
2 Rear corner sensors
3 Rear center sensors

Multi-information display (→P. 153)

1 Front corner sensor operation
2 Rear corner sensor operation
3 Rear center sensor operation

*: If equipped

Switching the intuitive parking assist on (→P. 332)

When on, an indicator is displayed to inform the driver that the function is operational.

The distance display and buzzer

When a sensor detects an obstacle, the direction of and the approximate distance to the obstacle are displayed and the buzzer sounds.

Front corner sensors

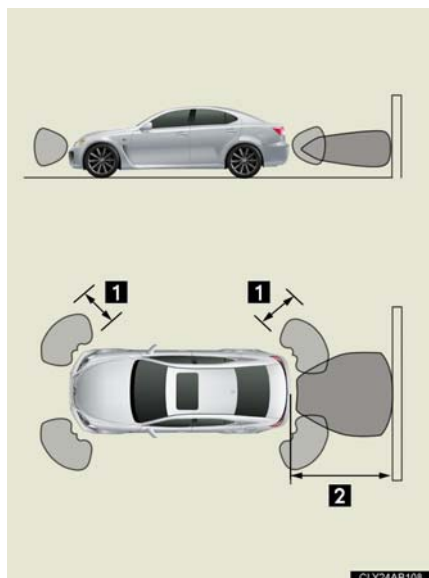
Multi-information display	Approximate distance to obstacle	Buzzer
	1.6 to 1.3 ft. (50 to 40cm)	Medium
	1.3 to 1.0 ft. (40 to 30cm)	Fast
	1.0 ft. (30cm) or less	Continuous

Rear corner sensors

Multi-information display	Approximate distance to obstacle	Buzzer
	1.6 to 1.2 ft. (50 to 37.5 cm)	Medium
	1.2 to 0.8 ft. (37.5 to 25 cm)	Fast
	0.8 ft. (25cm) or less	Continuous

Rear center sensors

Multi-information display	Approximate distance to obstacle	Buzzer
	4.9 to 2.0 ft. (150 to 60cm)	Slow
	2.0 to 1.5 ft. (60 to 45cm)	Medium
	1.5 to 1.1 ft. (45 to 35cm)	Fast
	1.1 ft. (35cm) or less	Continuous

Detection range of the sensors

1 Approximately 1.6 ft. (50 cm)

2 Approximately 4.9 ft. (150 cm)

The diagram shows the detection range of the sensors. Note that the sensors cannot detect obstacles that are extremely close to the vehicle.

The range of the sensors may change depending on the shape of the object etc.

n **Sensor detection information**

l Certain vehicle conditions and the surrounding environment may affect the ability of the sensor to correctly detect obstacles. Particular instances where this may occur are listed below.

- There is dirt, snow or ice on the sensor.
- The sensor is frozen.
- The sensor is covered in any way.
- The vehicle is leaning considerably to one side.
- On an extremely bumpy road, on an incline, on gravel, or on grass
- The vicinity of the vehicle is noisy due to vehicle horns, motorcycle engines, air brakes of large vehicles, or other loud noises producing ultrasonic waves.
- There is another vehicle equipped with parking assist sensors in the vicinity.
- The sensor is coated with a sheet of spray or heavy rain.
- The vehicle is equipped with a fender pole or wireless antenna.
- A towing eyelet is installed.
- The bumper or sensor receives a strong impact.
- The vehicle is approaching a tall or curved curb.
- In harsh sunlight or intense cold weather

In addition to the examples above, there are instances in which, because of their shapes, signs and other objects may be judged by the sensor to be closer than they are.

l The shape of the obstacle may prevent the sensor from detecting it. Pay particular attention to the following obstacles.

- Wires, fences, ropes etc.
- Cotton, snow and other materials that absorb radio waves
- Sharply-angled objects
- Low obstacles
- Tall obstacles with upper sections projecting outwards in the direction of your vehicle

n **If the display flashes and a message is displayed**

→P. 463

n **Certification**

▶ For vehicles sold in the U.S.A.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

▶ For vehicles sold in Canada

This ISM device complies with Canadian ICES-001.

Cet appareil ISM est conforme à la norme NMB-001 du Canada.

n **Customization that can be configured at Lexus dealer**

Settings (e.g. buzzer volume) can be changed. (Customizable features →P. 528)

CAUTION

n **Caution when using the intuitive parking assist**

Observe the following precautions.
Failing to do so may result in the vehicle being unable to be driven safely and possibly cause an accident.

- Do not use the sensor at speeds in excess of 6 mph (10 km/h).
- Do not attach any accessories within the sensor range.

NOTICE

n **Notes when washing the vehicle**

Do not apply intensive bursts of water or steam to the sensor area.
Doing so may result in the sensor malfunctioning.

Driving assist systems

To help enhance driving safety and performance, the following systems operate automatically in response to various driving situations. Be aware, however, that these systems are supplementary and should not be relied upon too heavily when operating the vehicle.

ABS (Anti-lock Brake System)

Helps to prevent wheel lock when the brakes are applied suddenly, or if the brakes are applied while driving on a slippery road surface.

Brake assist

Generates an increased level of braking force after the brake pedal is depressed, when the system detects a panic stop situation.

VSC (Vehicle Stability Control)

Helps the driver to control skidding when swerving suddenly or turning on slippery road surfaces.

TRAC (Traction Control)

Helps to maintain drive power and prevent the rear wheels from spinning when starting the vehicle or accelerating on slippery roads.

Hill-start assist control

Helps to prevent the vehicle from rolling backwards when starting on an incline or slippery slope.

EPS (Electric Power Steering)

Employs an electric motor to reduce the amount of effort needed to turn the steering wheel.

VDIM (Vehicle Dynamics Integrated Management)

Provides integrated control of the ABS, brake assist, TRAC, VSC, hill-start assist control, and EPS systems.
Helps to maintain vehicle stability when swerving on slippery road surfaces by controlling the brakes, engine output and steering assist.

When the F-sport mode total control switch is pressed, “Sport” mode is activated. (→P. 189)

PCS (Pre-Collision System) (if equipped)

→P. 193

When the VSC/TRAC/hill-start assist control systems are operating

The slip indicator light flashes to indicate that the VSC/TRAC/hill-start assist control systems have been engaged.

The stop lights and high mounted stoplight turn on when the hill-start assist control system is operating.

To disable TRAC and/or VSC

If the vehicle gets stuck in fresh snow or mud, TRAC and VSC may reduce power from the engine to the wheels. You may need to turn the system off to enable you to rock the vehicle in order to free it.

n Turning off TRAC

Quickly push and release the switch to turn off TRAC.

The “TRAC OFF” indicator light should come on.

Push the switch again to turn the system back on.

■ **Turning off TRAC and VSC**

Push and hold the switch for more than 3 seconds to turn off TRAC and VSC.

The "TRAC OFF" indicator light and VSC off indicator light should come on.

Push the switch again to turn the system back on.

F-sport mode total control switch

Your vehicle is equipped with two types of control modes to accommodate various driving preferences. The control modes can be selected with the F-sport mode total control switch. Normal mode allows secure and smooth normal driving. When the switch is pressed, "Sport" mode is activated. Control characteristics such as the ECT, EPS, VSC and TRAC are adjusted to afford maneuverability closer to what a driver may have imagined, while a sense of security is retained.

"Sport" mode/Normal mode

The "SPORT" indicator comes on when in "Sport" mode.

- **Automatic reactivation of the TRAC/VSC systems**

  If the TRAC/VSC systems are turned off, re-starting the engine will automatically reactivate them.

- **Automatic TRAC reactivation**

  If only the TRAC system is turned off, the TRAC system will turn on when vehicle speed increases.

- **Automatic TRAC and VSC reactivation**

  If the TRAC and VSC systems are turned off, the systems will not turn on even when vehicle speed increases.

- **Sounds and vibrations caused by the ABS, brake assist, VSC, TRAC and hill-start assist control systems**

  - A sound may be heard from the engine compartment if the brake pedal is depressed repeatedly when the engine is started or just after the vehicle begins to move. This sound does not indicate that a malfunction has occurred in any of these systems.
  - Any of the following conditions may occur when the above systems are operating. None of these indicates that a malfunction has occurred.
    - Vibrations may be felt through the vehicle body and steering.
    - A motor sound may be heard after the vehicle comes to a stop.
    - The brake pedal may pulsate slightly when the ABS is activated.
    - The brake pedal may move down slightly after the ABS is activated.

- **Hill-start assist control is operational when**

  - The shift lever is in the D or M position.
  - The brake pedal is not depressed.
  - The vehicle rolls backward.

- **EPS operation sound**

  When the steering wheel operates, a motor sound (whirring sound) may be heard. This does not indicate a malfunction.

n **Reduced effectiveness of EPS**

The effectiveness of EPS is reduced to prevent the system from overheating when there is frequent steering input over an extended period of time. The steering wheel may feel heavy as a result. Should this occur, refrain from excessive steering input or stop the vehicle and turn the engine OFF. The system should return to normal within 10 minutes.

n **Automatic deactivation of "Sport" mode**

When the "ENGINE START STOP" switch is turned OFF after driving in "Sport" mode, the mode is automatically deactivated.

n **If the slip indicator comes on**

It may indicate a malfunction in the VSC, TRAC or hill-start assist control system. Contact your Lexus dealer.

CAUTION

n **The ABS does not operate effectively when**

l The limits of tire gripping performance have been exceeded.

l The vehicle hydroplanes while driving at high speed on the wet or slick road.

n **Stopping distance when the ABS is operating will exceed that of normal conditions**

The ABS is not designed to shorten the vehicle's stopping distance. Always maintain a safe distance from the vehicle in front of you in the following situations.

l When driving on dirt, gravel or snow-covered roads

l When driving over bumps in the road

l When driving over roads with potholes or roads with uneven roads

n **TRAC may not operate effectively when**

Directional control and power may not be achievable while driving on slippery road surfaces, even if the TRAC system is operating.
Do not drive the vehicle in conditions where stability and power may be lost.

CAUTION

- **If the hill-start assist control does not operate effectively**

Do not overly rely on the hill-start assist control. The hill-start assist control may not operate effectively on steep inclines and roads covered in ice.

- **When the VSC is activated**

The slip indicator light flashes. Always drive carefully. Reckless driving may cause an accident. Exercise particular care when the indicator light flashes.

- **When TRAC and VSC are off**

Be especially careful and drive at a speed appropriate to the road conditions. As these are systems to ensure vehicle stability and driving force, do not turn off TRAC and VSC unless necessary.

- **Replacing tires**

Make sure that all tires are of the designated size and total load capacity, and of the same brand and tread pattern. In addition, make sure that the tires are inflated to the recommended tire pressure level.

The ABS, VSC and TRAC systems will not function correctly if different tires are fitted on the vehicle.
Contact your Lexus dealer for further information when replacing tires or wheels.

- **Handling of tires and suspension**

Using tires with any kind of problem or modifying the suspension will affect the driving assist systems, and may cause the system to malfunction.

PCS (Pre-Collision System)*

When the radar sensor detects possibility of a frontal collision, the pre-collision system such as the brakes and seat belts are automatically engaged to lessen impact and injuries to occupants as well as vehicle damage.

Pre-collision seat belts

If the pre-collision sensor detects that a collision is unavoidable, the pre-collision system will retract the seat belt before the collision occurs.
The same will happen if the driver makes an emergency braking or loses control of the vehicle. (→P. 62)

However, the system will not operate in the event of skidding when the VSC system are disabled.

Pre-collision brake assist

When there is a high possibility of a frontal collision, the system applies greater braking force in relation to how strongly the brake pedal is depressed.

Pre-collision braking

When there is a high possibility of a frontal collision, the system warns the driver using a warning light, warning display and buzzer. If the system determines that a collision is unavoidable, the brakes are automatically applied to reduce the collision speed. The pre-collision braking function can be turned on and off using the satellite switch.

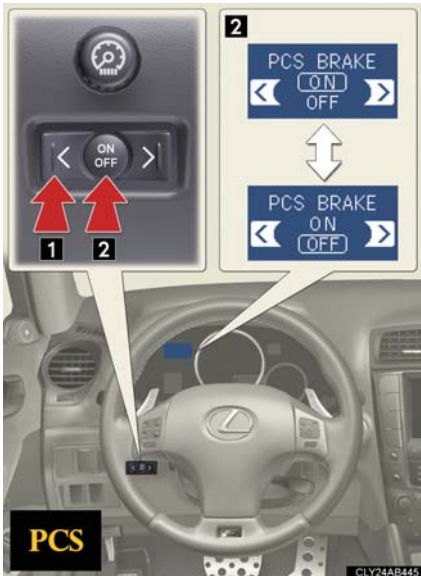
Radar sensor

Detects vehicles or other obstacles on or near the road ahead and determines whether a collision is imminent based on the position, speed, and heading of the obstacles.

1 Grille cover

2 Radar sensor

*: If equipped

Disabling the pre-collision braking

The pre-collision braking function can be turned on and off using the satellite switch. (→P. 332)

Press “<” or “>” to display the “PCS BRAKE” setting (1). Then, press the “ON/OFF” button in the middle of the switch to select either “ON” or “OFF” (2).

It may take approximately 3 seconds for the display to change after the satellite switch is operated.

The “PCS” warning light flashes when “OFF” is selected.

■ Obstacles not detected

The sensor cannot detect plastic obstacles such as pylons. There may also be occasions when the sensor cannot detect pedestrians, animals, bicycles, motorcycles, trees, or snowdrifts.

n **The pre-collision system is operational when**

l Pre-collision seat belts (type A):

- Vehicle speed is above 3 mph (5 km/h).
- The speed at which your vehicle is approaching the obstacle or oncoming vehicle exceeds about 19 mph (30 km/h).
- The front occupants are wearing a seat belt.

l Pre-collision seat belts (type B):

- Vehicle speed exceeds 19 mph (30 km/h).
- The system detects sudden braking or skidding.
- The front occupants are wearing a seat belt.

l Pre-collision brake assist

- Vehicle speed is above 19 mph (30 km/h).
- The speed at which your vehicle is approaching the obstacle or the vehicle is greater than 19 to 24 mph (30 to 40 km/h).
- The brake pedal is depressed.

l Pre-collision braking

- The pre-collision braking function is activated.
- Vehicle speed is above 9 mph (15 km/h).
- The relative speed difference between your vehicle and another vehicle that is forward of your vehicle, or the speed at which your vehicle is approaching an obstacle is greater than 9 mph (15 km/h).

Conditions that may trigger the system even if there is no possibility of collision

- When there is an object by the roadside at the entrance to a curve
- When passing an oncoming vehicle on a curve
- When driving over a narrow iron bridge
- When there is a metal object on the road surface
- When driving on an uneven road surface
- When passing an oncoming vehicle on a left-turn
- When your vehicle rapidly closes on the vehicle in front
- When a grade separation/interchange, sign, billboard, or other structure appears to be directly in the vehicle's line of travel.
- When climbing a steep hill causes an overhead billboard or other metallic structure to appear directly in the vehicle's line of travel.
- When an extreme change in vehicle height occurs
- When the axis of the radar is out of adjustment
- When passing through certain toll gates

When the system is activated in the situations described above there is also a possibility that the seat belts will retract quickly and the brakes will be applied with a force greater than normal. When the seat belt is locked in the retracted position, stop the vehicle in a safe place, release the seat belt and refasten.

When there is a malfunction in the system

Warning lights and/or warning messages will turn on or flash. (→P. 453, 463)

Situations in which the pre-collision system does not function properly

The system may not function effectively in situations such as the following:

- On roads with sharp bends or uneven surfaces
- On slippery roads such as those covered with ice or snow
- If a vehicle suddenly moves in front of your vehicle, such as at an intersection
- If a vehicle suddenly cuts in front of your vehicle, such as when overtaking
- In inclement weather such as heavy rain, fog, snow or sand storms
- When your vehicle is skidding with the VSC system off

■ **Automatic cancelation of the pre-collision system**

When a malfunction occurs due to sensor contamination, etc. that results in the sensors being unable to detect obstacles, the pre-collision system will be automatically disabled. In this case, the system will not activate even if there is a collision possibility.

■ **Certification**

▶ For vehicles sold in U.S.A.

FCC ID: HYQDNMWR005

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC WARNING

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Radio frequency radiation exposure Information:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

This equipment should be installed and operated with minimum distance of 20 cm between the radiator and your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

▶ For vehicles sold in Canada

Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

CAUTION

- **Handling the radar sensor**

  Observe the following to ensure the pre-collision system can function effectively.

  - Keep the sensor and front grille clean at all times.
    Clean the sensor and front grille with a soft cloth so you do not mark or damage them.
  - Do not subject the sensor or surrounding area to a strong impact.
    If the sensor moves even slightly off position, the system may malfunction. If the sensor or surrounding area are subject to a strong impact, always have the area inspected and adjusted by a Lexus dealer.
  - Do not disassemble the sensor.
  - Do not attach accessories or stickers to the sensor, grille guard or surrounding area.
  - Do not modify or paint the sensor and grille.

- **Limitations of the pre-collision system**

  Do not rely on the pre-collision system. Always drive safely, taking care to observe your surroundings and checking for any obstacles or other road hazards.

CAUTION

■ **Cautions regarding the assist contents of the system**

By means of alarms and brake control, the pre-collision system is intended to assist the driver in avoiding collisions through the process of LOOK-JUDGE-ACT. There are limits to the degree of assistance the system can provide, so please keep in mind the following important points.

- Assisting the driver in watching the road
  The pre-collision system is only able to detect obstacles directly in front of the vehicle, and only within a limited range. It is not a mechanism that allows careless or inattentive driving, and it is not a system that can assist the driver in low-visibility conditions. It is still necessary for the driver to pay close attention to the vehicle's surroundings.
- Assisting the driver in making correct judgment
  When attempting to estimate the likelihood of a collision, the only data available to the pre-collision system is that from obstacles it has detected directly in front of the vehicle. Therefore, it is absolutely necessary for the driver to remain vigilant and to determine whether or not there is a possibility of collision in any given situation.
- Assisting the driver in taking action
  The pre-collision system's braking assist feature is designed to help reduce the severity of a collision, and so only acts when the system has judged that a collision is unavoidable. This system by itself is not capable of automatically avoiding a collision or bringing the vehicle to a stop safely. For this reason, when encountering a dangerous situation the driver must take direct and immediate action in order to ensure the safety of all involved.